WHAT IS CLAIMED IS:

1. A main connector, having a connector body that can be detachably coupled to one of a plurality of sensor bodies arranged aligned and in contact with each other, and an electric cord including a power feed line; wherein said connector body includes:

a first joint for a sensor body, including a power feed terminal adapted for feeding power to an internal electric circuit of the sensor body, and a first connecting structure configured for mechanically and detachably fixing the first joint to the sensor body, the first connecting structure including an elastic projection portion;

a second joint for a neighboring connector, including a power feed terminal configured for feeding power to the neighboring connector, and a second connecting structure configured for mechanically and detachably fixing the second joint to the neighboring connector, the second connecting structure including an engaging slot, the engaging slot arranged in and passing through an endface of the second joint; and

an internal conductor for conducting the power fed through said electric cord to the power feed terminal included in said first joint and to the power feed terminal included in said second joint, inside the main connector.

2. The main connector according to claim 1, wherein the second joint further comprises an engaging hole, the engaging hole arranged in the endface of the second joint.

3. The main connector according to claim 2, wherein the engaging hole comprises stepped portions arranged in the engaging hole.

4. The main connector according to claim 1, wherein said electric cord introduced to said main connector includes, in addition to the power feed line, one or two or more signal lines, said first joint for the sensor body of said connector body includes a corresponding number of signal terminals, and an internal conductor coupling respective ones of the signal lines of said electric cord to the corresponding

signal terminals of said first joint for the sensor body is provided in said connector body.

5. The main connector according to claim 1, wherein

said second joint for the neighboring connector of said connector body is provided only on one side surface, and no joint exists on the other side surface.

6. The main connector according to claim 1, wherein a connecting structure for establishing mechanical and electrical connections with a neighboring connector is provided at said second joint for the neighboring connector of said connector body; and

the connecting structure has a recessed portion receiving a projecting portion of a neighboring connector, and is free of any projecting portion protruding toward a neighboring connector.

7. A sub connector, having a connector body that can be detachably coupled to one of a plurality of sensor bodies arranged on, and substantially completely above, a rail, said connector body including:

a first joint for a sensor body, including a power feed terminal adapted for feeding power to the internal electric circuit of said sensor body;

a second joint for a first neighboring connector, including a power receiving terminal for receiving power from one neighboring connector;

a third joint for a second neighboring connector, including a power feed terminal for feeding power to the other neighboring connector; and

an internal conductor for conducting the power received through the power receiving terminal included in said second joint, to the power feed terminal included in said first joint and to the power feed terminal included in said third joint, inside the sub connector, and

wherein the first, second and third joints are arranged at a level above the rail when the connector body is coupled to the sensor body.

8. The sub connector according to claim 7, wherein

a connecting structure for establishing mechanical and electrical connections with a neighboring connector is provided at said second joint for the first neighboring connector and said third joint for the second neighboring connector;

the connecting structure of said second joint for the first neighboring connector has a projecting portion protruding toward a connector neighboring said second joint for the first neighboring connector; and

the connecting structure of said third joint for the second neighboring connector has a recessed portion receiving the projecting portion of a neighboring connector, and is free of any projecting portion protruding toward a neighboring connector.

9. A sensor system, including:

a plurality of sensor bodies arranged aligned and adjacent to each other; and

a connector having an electric cord including at least a signal line is connected to each of said sensor bodies; wherein

said sensor body and said connector are detachably coupled;

each of said connectors is provided with a power feed terminal adapted for said sensor body and a detachable fitting for establishing electrical conduction between the power feed terminal and the power feed terminal of the adjacent connector; and

wherein the power supplied to one of the connectors through a power supply line in the electric cord is distributed to the power feed terminal of another said connector through a row of connectors.